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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,864	07/31/2003	Takashi Miyazawa	116747	9076

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EXAMINER	
TUROCY, DAVID P	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/630,864	MIYAZAWA, TAKASHI	
	Examiner	Art Unit	
	DAVID TUROCY	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11,13-20,31-46 and 48-58* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11,13-20,31-46 and 48-58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendments, filed 3/18/2008, have been fully considered and reviewed by the examiner. The examiner notes the amendments to the claims. Claims 1-11, 13-20, 31-46, and 48-58 remain pending in the instant application.

Response to Arguments

2. Applicant's arguments filed 3/18/2008 have been considered but are deemed moot in view of the new limitations not present at the time of the prior rejection. Accordingly, the added limitations are addressed in the prior art rejections that follow.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 4-8, 13-14, 31-39, 41-44, 48-49, 52-55, and 58 are rejected under 35 U.S.C. 102(b) as anticipated by US Patent 5898443 by Yoshino et al.

Yoshino discloses a method for detecting failure of an ink jet nozzle during a coating operation. Yoshino discloses detecting the ejection failure of the nozzle in order to improve the subsequent coating quality (Column 3, lines 1-7). Yoshino teaches a method of forming a plurality of films using a plurality of positions of at least one nozzle

and the base and ejecting a first gasified material from the at least one nozzle toward the base at each of the plurality of positions (Figures, Column 19, lines 47-62). Yoshino discloses detecting ejection failure of the at least one nozzle (Column 3, lines 7-42). Yoshino discloses ejecting the ink by heating the ink above the boiling temperature to gasify the ink and create a bubble to eject the ink (Column 18, lines 24-50).

The claims simply require the substrate be processed in a chamber and since the claims fail to require any specifics with regard to the chamber, at the very least, the room within which the process takes place can broadly be considered a "chamber" as described by the current claims. Additionally the examiner notes figure 12 explicitly describes a chamber (500).

Yoshino discloses forming a first film of a plurality of films using a first ejection for ejecting a first and second material from nozzles during a first period in a first area and a second ejection of the first and second material during a second period in a second area (figures, column 6, lines 15-25, column 7, line 25-column 8, line 13).

Additionally, with respect to the claims requiring depositing various films in various distinct areas of the base at various times, such is explicitly taught by Yoshino in figures 1, 4, 5, 6.

Claim 4: Yoshino teaches of detecting ejection failure of at least one nozzle including ejecting a first gasified material to a preliminary area provided in a preliminary member provided on a predetermined area of the base (Column 3, lines 7-42).

Claim 5: Yoshino discloses detecting ejection failure by inspecting the preliminary film formed on the preliminary ejecting area (Column 3, lines 26-40).

Claims 6: Yoshino discloses visual inspecting the film, which would result in a measurement of the light reflectivity of the film (Column 3, lines 26-40).

Claim 8: Yoshino discloses ejection of more than one gasified material and also discloses detecting the ejection failure by measuring the temperature increase upon ejection of the gasified materials, which would inherently result in detecting ejection failure prior to ejecting the second gasified material (Figure 17, Column 3, lines 7-42).

Claims 9 and 13: Yoshino discloses setting a plurality of relative positions, including a first and second position, by moving both the nozzle and the base wherein the plurality of films is formed in one area, claimed "second area", prior to ejecting in the other area, claimed "first area" (Figures 4-8, and 17). Such an arrangement would result in the first and second material being ejected to the second area prior to ejecting to the first area, which meets the limitation as claimed.

Claim 14: Yoshino discloses each of the first film and second film includes a first and second material (column 6-7).

Claim 31: Yoshino discloses detecting an ejection failure using a sensor, optical or temperature (Column 3, lines 7-42).

Claim 32: Yoshino as above teaches the limitations of this claim.

Claims 33-34: Yoshino discloses detecting ejection failure using an optical sensor and also discloses visually inspecting the film, which would require irradiation from a light source, as well as measuring the light reflectivity of the film (Column 3, lines 7-42).

Claims 36, 42, and 43: The limitations of these claims are taught by Yoshino as above, in addition Yoshino discloses scanning the nozzle during ejection (Figures 4-8).

Claim 41: Yoshino discloses scanning (i.e. along the X coordinate) the nozzle during ejection of the gasified material (Figures 4-8).

Claim 44: Yoshino discloses a plurality of nozzles in a discharge head.

Claim 45: Yoshino as above teaches the limitations of this claim; in addition Yoshino discloses scanning (i.e. along the X coordinate) the nozzle during ejection of the material (Figures 4-8).

Claim 48: The process of Yoshino comprises the steps of the claim as discussed above.

Claim 49: Yoshino discloses a plurality of nozzles and ejecting a first and second material, therefore the first and second material are ejected at least during a portion of the same.

Claim 50-51: Yoshino explicitly discloses the first material from a first nozzle and the second material from the second nozzle are included into the first layer (Figures).

Claims 52-55: The process of Yoshino comprises the steps of the claim as discussed above.

Claim 58, which requires spectroscopic means, such is discloses as encompassing optical sensors, see paragraph 0019 of the applicants specification and Yoshino discloses an optical sensor (Column 3, lines 7-42).

5. Claims 1, 8, 13-20, 35-37, 40-44, 48-51, 53-57 are rejected under 35 U.S.C. 102(b) as anticipated by EP 1 093 167 A2 by Yamazaki et al.

Claims 1, 14, 15, 16, 17, 18, 19, and 41: Yamazaki discloses a method of manufacturing an electro-optical device comprising forming the EL layers using an ink jet process in a chamber in the form of a pattern (0172-0173 and 0179-0183, see also figures). Yamazaki discloses forming a first film of the plurality of films in a first area of the base, the forming of the first film including an ejection of a first material from a first nozzle that is carried out during a first period; and forming a second film of the plurality of films that is formed in a second area of the base and that is separated from the first film, the forming of the second film including an ejection of the first material from the first nozzle that is carried out during a second period, the first film being formed when the ejection of the first material from the first nozzle during the first period is completed, the base being provided in a first chamber during the first period, the second film being formed when the ejection of the first material from the first nozzle during the second period is completed, and the base being provided in the first chamber during the second period. (0172-0173 and 0179-0183, see also figures).

Yamazaki, see figure 1a, discloses a first and second nozzle, and a first and second area and discloses a first ejection of a first material and a first ejection from a second material during a first period on a first area, and then subsequently forming a second ejection of a first material from a first nozzle and a second ejection from a second nozzle during a second period and in a second area.

As discussed in section 2 above, the process of Yamazaki discloses not dispersing a first material with a solvent. This does not encompass the term "solvent" because the solvent does not dissolve itself.

Claims 8, 13, 17, 35, and 41: Additionally, with respect to the claims requiring depositing films in a third and fourth distinct areas of the base at varying times, such is explicitly taught by Yamazaki in figures. Yamazaki discloses nozzle being one of a plurality of nozzles on a discharge head (figure 4).

Claim 14: Yama

Claim 20: Yamazaki discloses partitions (figure 4).

Claim 36, 42, 43: Yamazaki discloses scanning (i.e. along the X coordinate) the nozzle during ejection of the gasified material (Figures 4-8).

Claim 37, 44: Yamazaki discloses nozzle being one of a plurality of nozzles on a discharge head (figure 4).

Claim 40: Yamazaki discloses organic EL element (0068).

Claims 48-51, and 53-57: Yamazaki teaches the limitations of these claims as discussed above

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 4-7, 31-34, 38-39, 45-46, and 52 are rejected under 35 U.S.C. 103(a) as obvious over EP 1 093 167 by Yamazaki. et al. in view of US Patent 5898443 by Yoshino et al

Yamazaki discloses forming the EL layers using an ink jet process in a chamber (0172-0173 and 0179-0183, see also figures) as discussed in the 35 USC 102(b) rejection above, and Yamazaki discloses forming the layers using a plurality of dots, but fails to explicitly disclose detecting ejection failure during the ink jet method. However, Yoshino teaches all that is taught above in the 35 USC 102(b) rejection. Additionally, Yoshino discloses detecting the ejection failure of the nozzle in order to improve the subsequent coating quality (Column 3, lines 1-7). Yoshino teaches a method of forming a plurality of films using a plurality of positions of at least one nozzle and the base and ejecting a first material from the at least one nozzle toward the base at each of the plurality of positions (Figures, Column 19, lines 47-62). Yoshino discloses detecting ejection failure of the at least one nozzle (Column 3, lines 7-42).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Yamazaki to use the ink jet method as taught by Yoshino including detection of ejection failure to provide a desirable ink jet coating of a substrate because Yoshino discloses detecting ink jet nozzle failure is known in the art to provide a coating operation to improve coating quality and therefore would reasonably be expected to effectively improve quality in the production of electro-organic devices manufactured using the ink jet method.

Claims 45-46: It would have been obvious to one of ordinary skill in the art to provide adjustability. Making portable, integral, separable, or adjustable. *In re Lindberg 93* USPQ 23; *In re Larson et al.* 144 USPQ 347; *In re Dulberg* 129 USPQ 348; *In re Stevens* 101 USPQ 284.

8. Claims 1-6, 8-11, 13-20, 31-51, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Abstract 2000-323276 by Seki et al, hereafter Seki in view of Yamazaki, Japanese Patent Abstract 06-306181 by Hiraga et al, hereafter Hiraga '181, Yoshino and the admitted state of the art as taught by the applicants description ("ASA").

Seki teaches of a method of manufacturing an electro-optical device by depositing the electron-transporting layer, hole-transporting layer and light-emitting layer by the ink jet method and then subsequently forming an electrode (abstract). Seki discloses partitions separate pixels from each other are formed in advance on the base and the material is arranged in the partitions (Abstract, Figures). Seki fails to explicitly

disclose forming the films in a chamber, however, Yamazaki disclosing, in forming a EL device by ink jet method, that it is known and suitable in the art to provide a chamber during the ink jet method (0179). Additionally, Yamazaki, see figure 1a, discloses a first and second nozzle, and a first and second area and discloses a first ejection of a first material and a first ejection from a second material during a first period on a first area, and then subsequently forming a second ejection of a first material from a first nozzle and a second ejection from a second nozzle during a second period and in a second area. The selection of something based on its known suitability for its intended use has been held to support a *prima facie* case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.,* 325 U.S. 327, 65 USPQ 297 (1945).

Seki in view of Yamazaki fails to disclose ejecting the material in a vacuum apparatus that is adjusted to a pressure as claimed.

However, Hiraga '181, teaching of a method of producing an organic optical thin film, discloses controlling the structure at a lower temperature without causing the heat decomposition of the optical material by spraying the material in a high-vacuum vessel, adjusted to a pressure of 10^{-4} torr or below (abstract).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify Seki in view of Yamazaki to dispense the coating material in a vacuum chamber as suggested by Hiraga '181 to provide a desirable organic optical film because Seki teaches using an ink jet method to dispense an organic optical material and Hiraga '181 teaches a high vacuum provides an organic optical film

deposited at a lower temperature which does not result in the heat decomposition of an optical film.

Seki in view of Yamazaki and Hiraga '181 fails to disclose the claimed amount of vacuum utilized during the ejection process. However, Hiraga '181 discloses adjusting the pressure of 10^{-4} torr or below, which overlaps and/or encompasses the ranges as claimed. In the case where the claimed ranges "overlap or lie" inside ranges disclosed by prior art a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257 191 USPQ 90. See MPEP 2144.05.

Seki in view of Yamazaki and Hiraga '181 fails to disclose detecting ejection failure of a nozzle in the vacuum chamber and the claimed processes of the detection.

However Yoshino discloses a method for detecting failure of an ink jet nozzle during a coating operation. Yoshino discloses detecting the ejection failure of the nozzle in order to improve the subsequent coating quality (Column 3, lines 1-7). Yoshino teaches a method of forming a plurality of films using a plurality of positions of at least one nozzle and the base and ejecting a first gasified material from the at least one nozzle toward the base at each of the plurality of positions (Figures, Column 19, lines 47-62). Yoshino discloses detecting ejection failure of the at least one nozzle (Column 3, lines 7-42).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Seki in view of Yamazaki and Hiraga '181 to use the detection of ejection failure as suggested by Yoshino to provide a desirable ink jet coating of a substrate because Yoshino discloses detecting ink jet nozzle failure is known in the art to provide a coating operation to improve coating quality and therefore would reasonably be expected to effectively improve quality in the production of electro-organic devices manufactured using the ink jet method.

In addition, Seki discloses applying a solute and solvent mixture, including using more then one material to form a film (i.e. a first and second material) and Yoshino discloses ejecting the ink by heating the ink above the boiling temperature to gasify the ink and create a bubble to eject the ink (Column 18, lines 24-50), except the references fail to disclose ejecting a first and second material in the form of a gas and each of the films includes the material.

However, as evidenced by ASA, the lowering of the pressure within the process chamber to a vacuum pressure results in gasifying the materials to be ejected form the nozzle, see for example paragraph 0006.

Therefore, it is the examiners position, that at least a portion of the materials being ejected from the ink jet nozzle are being ejected as a gas because of the pressure in the chamber, as taught by the ASA results in gasifying the materials at lower temperatures, and Seki in view of Yamazaki, Hiraga '181 and Yoshino discloses applying heat to the ink to create a gas bubble to properly eject the ink.

Claim 4: Yoshino teaches of detecting ejection failure of at least one nozzle including ejecting a first gasified material to a preliminary area provided in a preliminary member provided on a predetermined area of the base (Column 3, lines 7-42).

Claim 5: Yoshino discloses detecting ejection failure by inspecting the preliminary film formed on the preliminary ejecting area (Column 3, lines 26-40).

Claims 6: Yoshino discloses visual inspecting the film, which would result in a measurement of the light reflectivity of the film (Column 3, lines 26-40).

Claim 8: Yoshino discloses ejection of more than one gasified material and also discloses detecting the ejection failure by measuring the temperature increase upon ejection of the gasified materials, which would inherently result in detecting ejection failure prior to ejecting the second gasified material (Figure 17, Column 3, lines 7-42).

Claims 9 and 13: Yoshino discloses setting a plurality of relative positions, including a first and second position, by moving both the nozzle and the base wherein the plurality of films is formed in one area, claimed “second area”, prior to ejecting in the other area, claimed “first area” (Figures 4-8, and 17). Such an arrangement would result in the first and second gasified material being ejected to the second area prior to ejecting to the first area, which meets the limitation as claimed.

Claim 14: Yoshino discloses detecting offset of ejection, i.e. position deviation, and then performing a recovery process, i.e. a position correction, to correct the offset ejection to proceed to normal ejection process (Column 3, lines 1-7).

Claim 31: Yoshino discloses detecting an ejection failure using a sensor, optical or temperature (Column 3, lines 7-42).

Claim 32: Yoshino as above teaches the limitations of this claim.

Claims 33-34: Yoshino discloses detecting ejection failure using an optical sensor and also discloses visually inspecting the film, which would require irradiation from a light source, as well as measuring the light reflectivity of the film (Column 3, lines 7-42).

Claims 36, 42, and 43: The limitations of these claims are taught by Yoshino as above, in addition Yoshino discloses scanning the nozzle during ejection of the gasified material (Figures 4-8). However, if such is found not to be the case, Yoshino does disclose scanning the nozzle to form a film and it is well within the skill of one ordinary in the art to have modified Yoshino to move the nozzle during ejection to provide a desired film so as to increase throughput and efficiency. Therefore one of ordinary skill in the art would have been motivated to move the nozzle and eject at least during a portion of the same time so as to increase the throughput and efficiency of the deposition process.

Claims 40: Seki in view of Yamazaki, Hiraga '181, Yoshino and ASA discloses co-deposition of a first and second material, wherein the ink as taught by Seki includes more that one material and additionally the claim does not provide a distinction between a first and second material. Additionally, Seki discloses a plurality of layers inclusive of those as claimed, wherein a first material can be broadly considered a host material and a second material can be broadly considered the guest material (paragraphs 0101-1019).

Claim 41: Yoshino discloses scanning (i.e. along the X coordinate) the nozzle during ejection of the gasified material (Figures 4-8). However, if such is found not to be the case, Yoshino does disclose scanning the nozzle to form a film and it is well within the skill of one ordinary in the art to have modified Yoshino to move the nozzle during ejection to provide a desired film so as to increase throughput and efficiency. Therefore one of ordinary skill in the art would have been motivated to move the nozzle and eject at least during a portion of the same time so as to increase the throughput and efficiency of the deposition process. Alternatively, Seki discloses ejecting a first and second material, therefore the first and second material are ejected at least during a portion of the same. Alternatively, it would have been obvious to eject from multiple nozzles simultaneously with a reasonable expectation of successfully providing the desired film. The prior art can be modified or combined to reject claims as prima facie obvious as long as there is a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375.

Claim 44: Yoshino discloses a plurality of nozzles in a discharge head.

Claim 45: Yoshino as above teaches the limitations of this claim; in addition Yoshino discloses scanning (i.e. along the X coordinate) the nozzle during ejection of the gasified material (Figures 4-8). However, if such is found not to be the case, Yoshino does disclose scanning the nozzle to form a film and it is well within the skill of one ordinary in the art to have modified Yoshino to move the nozzle during ejection to provide a desired film so as to increase throughput and efficiency. Therefore one of ordinary skill in the art would have been motivated to move the nozzle and eject at least

during a portion of the same time so as to increase the throughput and efficiency of the deposition process.

Claims 45-46: It would have been obvious to one of ordinary skill in the art to provide adjustability. Making portable, integral, separable, or adjustable. *In re Lindberg 93* USPQ 23; *In re Larson et al.* 144 USPQ 347; *In re Dulberg* 129 USPQ 348; *In re Stevens* 101 USPQ 284.

Claim 48: The process of Yoshino comprises the steps of the claim as discussed above.

Claim 49: Seki in view of Yamazaki, Hiraga '181, Yoshino and ASA discloses a plurality of nozzles and Seki discloses ejecting a first and second material, therefore the first and second material are ejected at least during a portion of the same. Alternatively, it would have been obvious to eject from multiple nozzles simultaneously with a reasonable expectation of successfully providing the desired film. The prior art can be modified or combined to reject claims as prima facie obvious as long as there is a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375.

Claim 50-51: Seki in view of Yamazaki, Hiraga '181, Yoshino and ASA fails to explicitly disclose the first material from a first nozzle and the second material from the second nozzle are included into the first layer. However, the examiner notes that the applicant has not set forth that the first film is continuous or that the first and second nozzle are distinct and therefore, for at least those reasons, the process of Seki in view of Hiraga '181, Yoshino and ASA discloses such a limitation. Alternatively, it would

have been obvious to eject from multiple nozzles simultaneously to form a first film with a reasonable expectation of successfully providing the desired film properties, including composition and size. The prior art can be modified or combined to reject claims as prima facie obvious as long as there is a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375.

Claim 58, which requires spectroscopic means, such is discloses as encompassing optical sensors, see paragraph 0019 of the applicants specification and Yoshino discloses an optical sensor (Column 3, lines 7-42).

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seki in view of Seki in view of Yamazaki, Hiraga '181, Yoshino and ASA and further in view of US Patent 6296354 by Hashimoto, hereafter Hashimoto.

Seki in view of Yamazaki, Hiraga '181, Yoshino and ASA teach all the limitations of these claims as discussed above, however they fail to disclose detecting the light transmissivity of the material to determine ejection failure.

However, Hashimoto discloses determining the existence of material, during an ink jet printing, by using a reflection photosensor (Column 7, lines 51-57). Hashimoto discloses the degree of transmission of light depends on the light transmitted or reflected off of the material (Column 7, lines 51-57). Therefore Hashimoto reasonably suggests measuring the amount of light transmitted through the material and/or the amount of light reflected off the material are substitutes for each other for determining the material present. Therefore, it would have been obvious to one skilled in the art at

the time of the invention to substitute the transmissible sensor, which measure the amount of light passing through the material, for the light reflective sensor as taught by Seki in view of Yamazaki, Hiraga '181, Yoshino and ASA with the expectation of achieving equivalent results.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID TUROCY whose telephone number is (571)272-2940. The examiner can normally be reached on Monday-Friday 8:30-6:00, No 2nd Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/David Turocy/
Examiner, Art Unit 1792

/Timothy H Meeks/
Supervisory Patent Examiner, Art Unit 1792